

ACRS



Comms Cabling Regulations & Standards Update

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Issue 1

REGULATIONS by ACMA

ACMA adopts new 'wiring rules' for installing customer cabling

The Australian Communications and Media Authority (ACMA) has adopted new wiring rules for installing customer cabling. The new rules came into effect on 1 July 2006.

The Australian Communications Industry Forum (ACIF) announced on 12 April 2006 it has published new wiring rules in the form of a standard, AS/ACIF S009:2006 *Installation requirements for customer cabling (Wiring Rules)*. Under the regulatory arrangements relating to ACMA's Cabling Provider Rules, the new Wiring Rules are automatically adopted by ACMA when published by ACIF.

If you are planning to undertake telecommunications cabling work (that is, install or maintain telephone and other telecommunications cabling in homes and offices), then you need to be registered. All registered cabling providers must comply with the Wiring Rules as part of the conditions of their registration.

The new Wiring Rules have been restructured, with extensive use of headings, and contain more information to help cabling providers comply with the requirements of the standard.

Some of the major changes to the standard include:

- redefinition of voltage classifications;
- fire detection and fire alarm system cabling variations accommodated; and
- building control system cabling variations accommodated.

The full detail of changes to the Wiring Rules, are available at the ACIF web site http://www.acif.org.au/documents_and_lists/standards/S009_2006.

Please contact ACMA on 1300 850 115 or email cabling@acma.gov.au for more information.

TECHNICAL
by
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USING A CABLE AND PAIR IDENTIFIER

(PART A)

How many times have you walked up to a telecommunications outlet installed on a wall and have no idea where the other end of the cable is?

To locate the other end you can use a cable and pair identifier, these are typically a device that has a tone generator (oscillator) and a receiver (probe). These devices are typically known as F-Sets and are very useful if you know how to use them properly.

The principle behind the F-Set is “Twisted Pair cable Radiates”, that is if you put a tone down a twisted pair using the tone generator, the twisted pair will act like an antenna and radiate the signal that is injected into to it. The receiver is just a like a radio receiver except it is tuned to only one frequency being the frequency used by the sender.

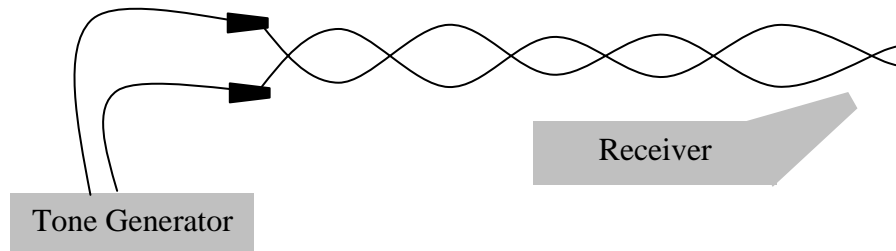


Figure 1

Whilst the principle seems quite straight forward the actual use of it requires a greater understanding.

Note, these tone generators used to located telecommunications cabling will typically withstand the typical voltages found in the telecommunications network but will not withstand 240 V, caution must be taken to use the equipment appropriately.

The principle of the device is, when you inject a tone say around 2 KHz into a telephone cable some of it will radiate. The tone generator is connected to one end of the cable pair you are trying to identify, this will inject the tone. By holding the receiver close to the cable you will get an audible tone indicating that the pair of interest is contained in the cable you are close to. To then identify the pair in question you need to identify the frame or socket the pair is terminated in and hold the receiver as close as possible to the pair in question.

Step 1 Connect the tone generator to the pair in question and test to ensure tone is actually being put on the line. Do not hold generator whilst you test because your body will form part of circuit and give false indication. Through use you can determine condition of line eg if there is a n exchange line connected it will generate different tone or the polarity led will glow,

Step 2. Place the receiver as close as possible to the cable sheath where you think your pair will be found

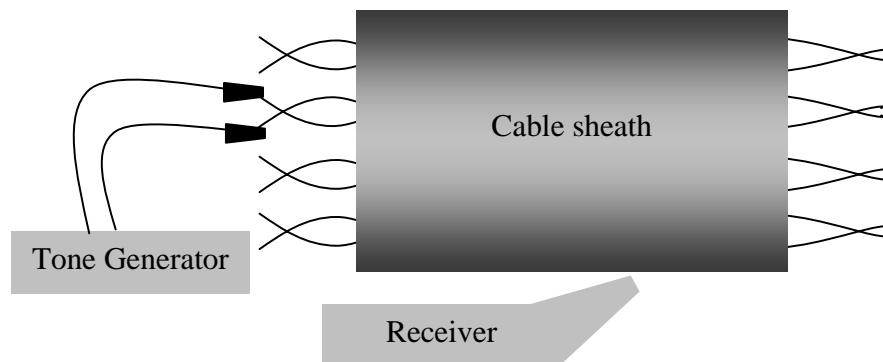


Figure 2

Step 3. Once you have found the cable the pair is contained in, and identified the other end of the cable you now need to identify the pair within the cable, this is done by placing the receiver as close as possible to the point of termination of the cable.

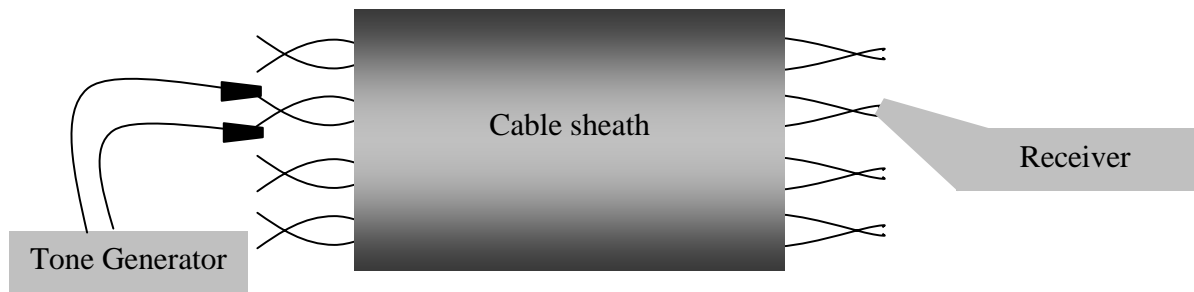


Figure 3

At this point you may strike a couple of problems:

1. Can't detect any tone
2. Tone seem to be in more than one pair

Continued in Part 'B' next issue (August 2006)